



UNITED STATES PATENT AND TRADEMARK OFFICE

clo

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,806	09/08/2003	Hisakazu Okajima	815_011	1123
25191	7590	09/24/2004	EXAMINER	
BURR & BROWN PO BOX 7068 SYRACUSE, NY 13261-7068			PAIK, SANG YEOP	
			ART UNIT	PAPER NUMBER
			3742	

DATE MAILED: 09/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/657,806

Applicant(s)

OKAJIMA, HISAKAZU

Examiner

Sang Y Paik

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-20 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/8/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 10, 13, 14, 15, 16, 17, 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Kano et al (US 6,242,719).

Kano et al shows a heater having a ceramic plate made of aluminum nitride with a resistant heater element formed in the ceramic plate, the heater element forming a continuous wiring pattern with a plurality of flexures, the wiring pattern further having a multiple rows of curved portions which avoids holes which penetrate the heating surface, and the wiring pattern further includes the flexure having a swollen part in an asymptotic direction as the wiring pattern passes the terminals. Kano et al shows that its heating wire pattern is arranged to provide thermal uniformity in the heater.

3. Claims 1, 2, 5, 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Hurko (US 3,067,315).

Hurko shows a heater having a ceramic plate with a resistant heater element formed therein with the heater element having a continuous wiring pattern with a plurality of flexures

Art Unit: 3742

with the width between the wiring pattern is gradually becoming wider in the folding area than non-folding area.

4. Claims 1, 2, 3, 5, 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Mizuno et al (US 5,766,363).

Mizuno et al shows a ceramic heater plate (31) upon which a resistant heater element is coated thereon, the heater element has a continuous wiring pattern including a plurality of flexures including a folding part where the width between the wiring pattern is gradually becoming wider in the folding area than non-folding area, and the folding part also shows an approximately linear connection and corners as both ends of the connection part.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6, 7, 8, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hurko (US 3,067,315) in view of Yoshida et al (US 6,080,970).

Hurko shows the heater structure claimed except providing the terminals in the center of the plate.

Yoshida et al shows a ceramic heater where the terminals of the heating element in the center of the plate. Yoshida et al further shows that the ceramic heater can also be made of aluminum nitride with a heater element embedded in the ceramic plate. In view of Yoshida et al, it would have been obvious to one of ordinary skill in the art to adapt Hurko with the terminals

Art Unit: 3742

provided in the center of the plate as an alternative arrangement to more conveniently provide the electrical terminal connection and further adapt with embedded heater element in an aluminum nitride ceramic plate that can also provide a uniform heating distribution and withstand a high temperature and prevent corrosion as well.

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kano et al (US 6,242,719) in view of Mizuno et al (US 5,766,363).

Kano et al shows the heater structure claimed except the claimed folding parts having wider width.

Mizuno et al shows a heater structure with a heater element including a wiring pattern including a plurality of flexures including a folding part where the width between the wiring pattern is gradually becoming wider in the folding area than non-folding area. In view of Mizuno et al, it would have been obvious to one of ordinary skill in the art to adapt Kano et al with the claimed folding parts to further improve the thermal uniformity across its heater.

8. Claims 12 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kano et al (US 6,242,719) in view of Fure et al (US 6,753,507) or Yoshida et al (US 6,080,970).

Kano et al shows the heater structure claimed except the heater element being embedded in the ceramic plate.

Fure et al teaches that a ceramic heater structure where the heating element is provided inside or embedded in the ceramic plate. Yoshida et al also shows a ceramic heater with a heating element embedded therein. In view of Fure et al or Yoshida et al, it would have been obvious to one of ordinary skill in the art to adapt Kano et al with the heating element embedded

Art Unit: 3742

in the ceramic plate as an alternative arrangement that can also provide a good uniform heat distribution as well as to further protect the heating element from corrosion.

Allowable Subject Matter

9. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang Y Paik whose telephone number is 703-308-1147. The examiner can normally be reached on M-F (9:00-4:00) First Friday Off.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sang Y Paik
Primary Examiner
Art Unit 3742

S. Paik

syp